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Agenda Item No. C-8

Foreign Submarine-Launched Ballistic Missiles

Working Group Paper

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Office of Scientific Weapons and Research
Directorate of Intelligence
Central Intelligence Agency
United States of America

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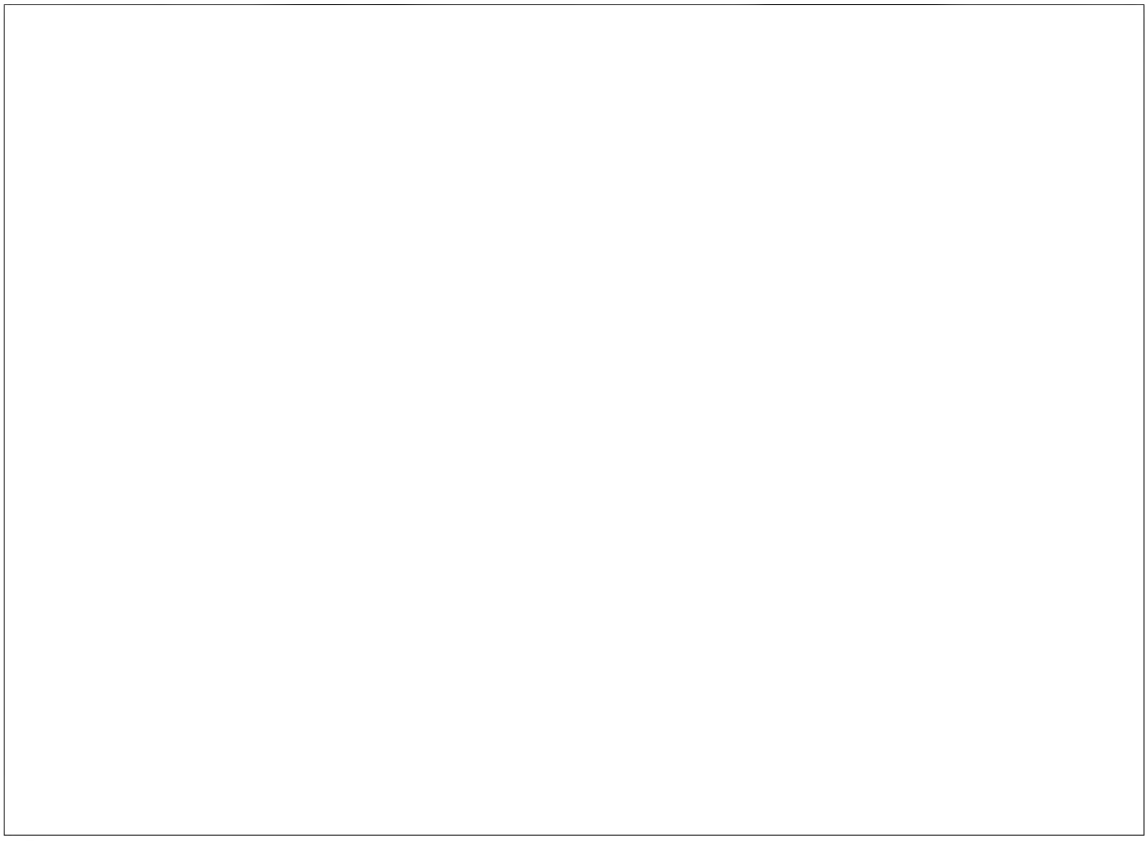


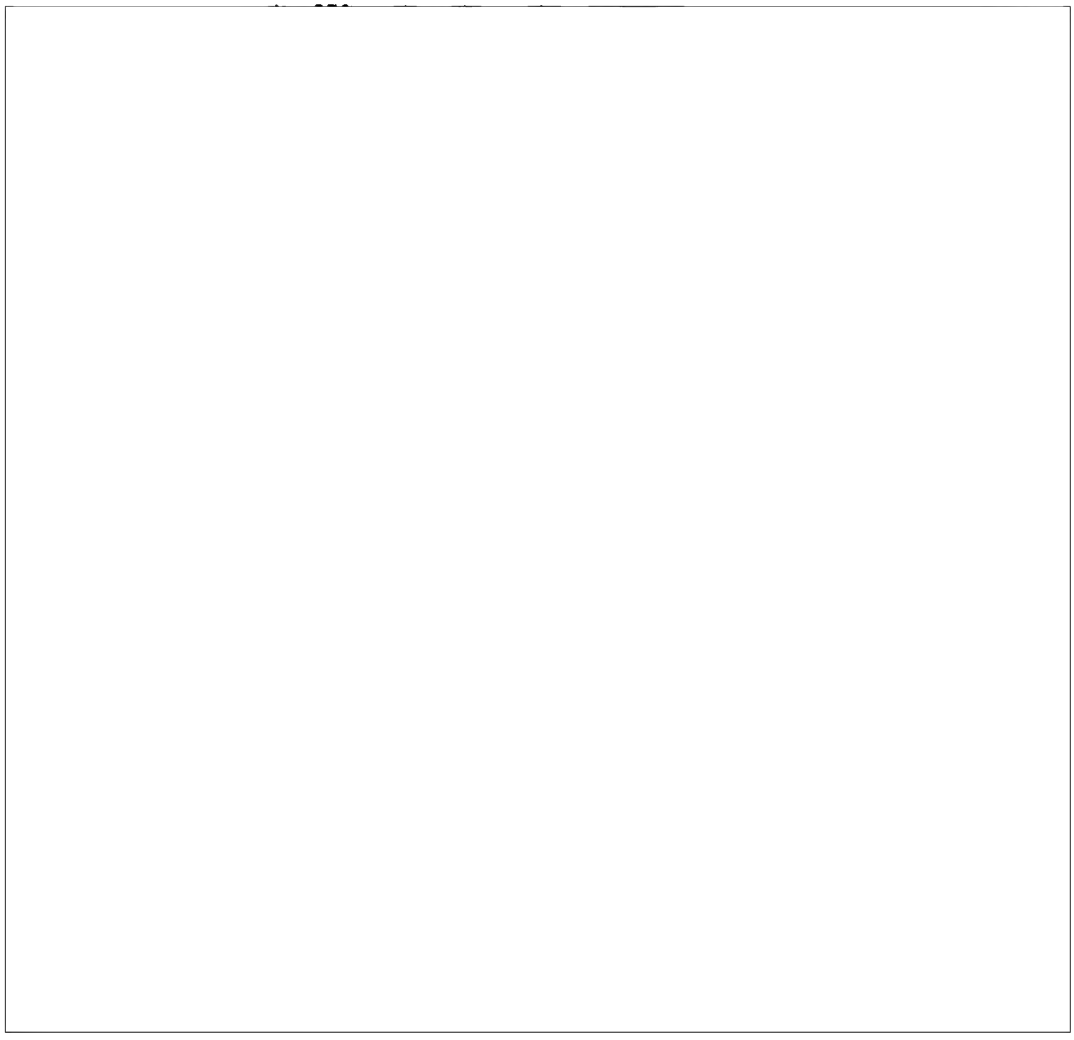
Introduction to French SLBMs

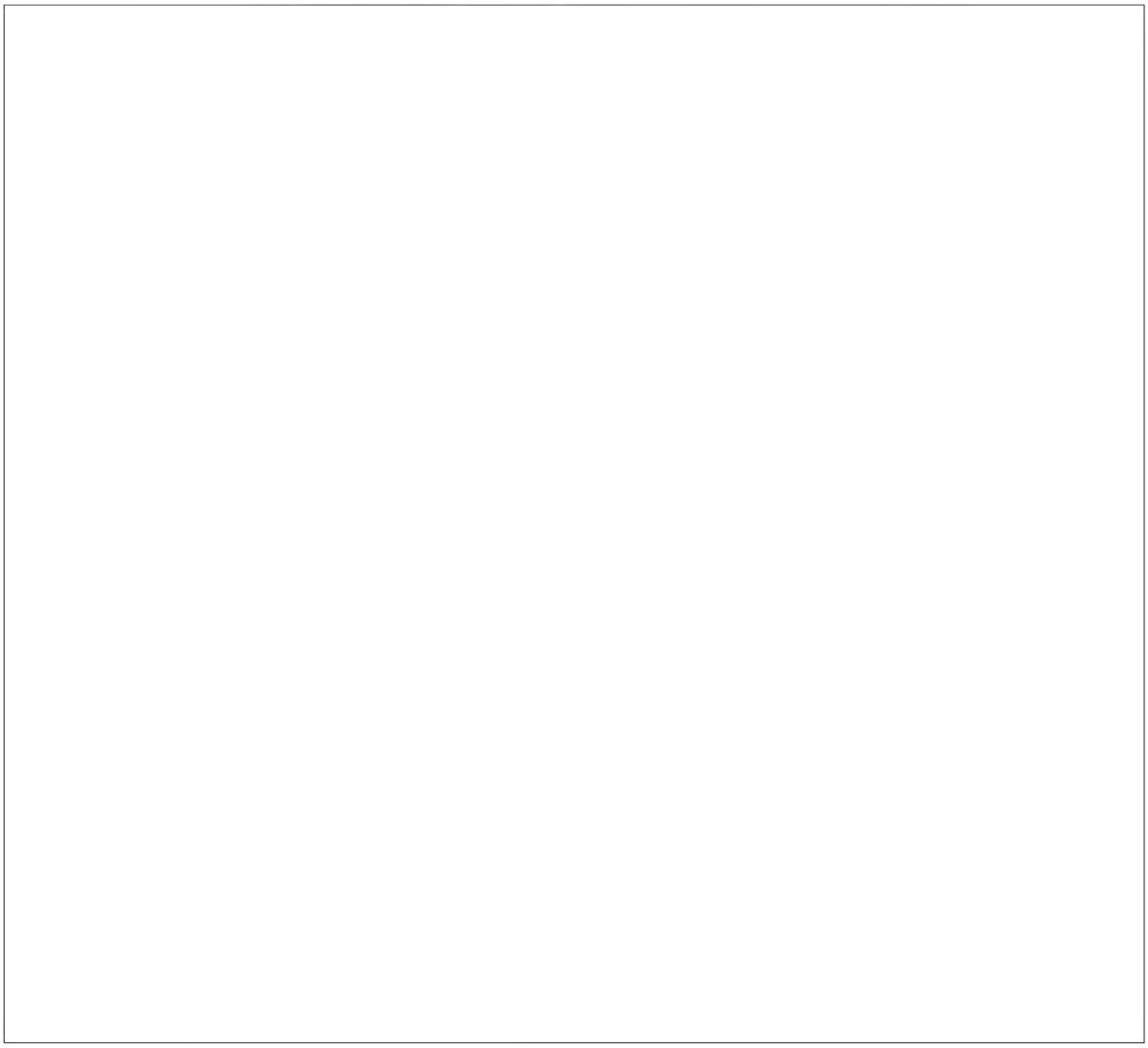
Like the United States, France has a strategic triad consisting of bombers and land-based and sea-based ballistic missiles. Its SLBM/SSBN force is larger than the others and continued modernization is programmed.

The Development of French SLBMS

Development of the first French SLBM, the M-1, began in the early 1960's. Much of the M-1 technology was shared with the land-based IRBM also being developed at that time. The missile became operational in 1971 when France's only available SSBN, the 16-tube Redoutable was first deployed.

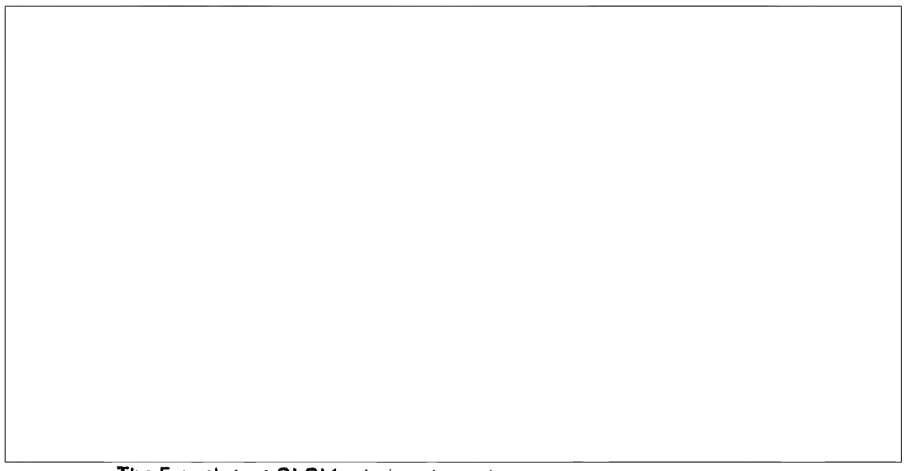
The M-1 had a relatively short range, limiting its capability to strike Soviet targets from the Norwegian Sea patrol area still used by the French SSBNs. By 1974 the M-2 SLBM began replacing the M-1. The M-2 differed from the M-1 by having an increased range—2,800 km—and no doubt an improved guidance and control system. Both the M-1 and M-2 have been phased out of service.





French SLBM Test Ranges

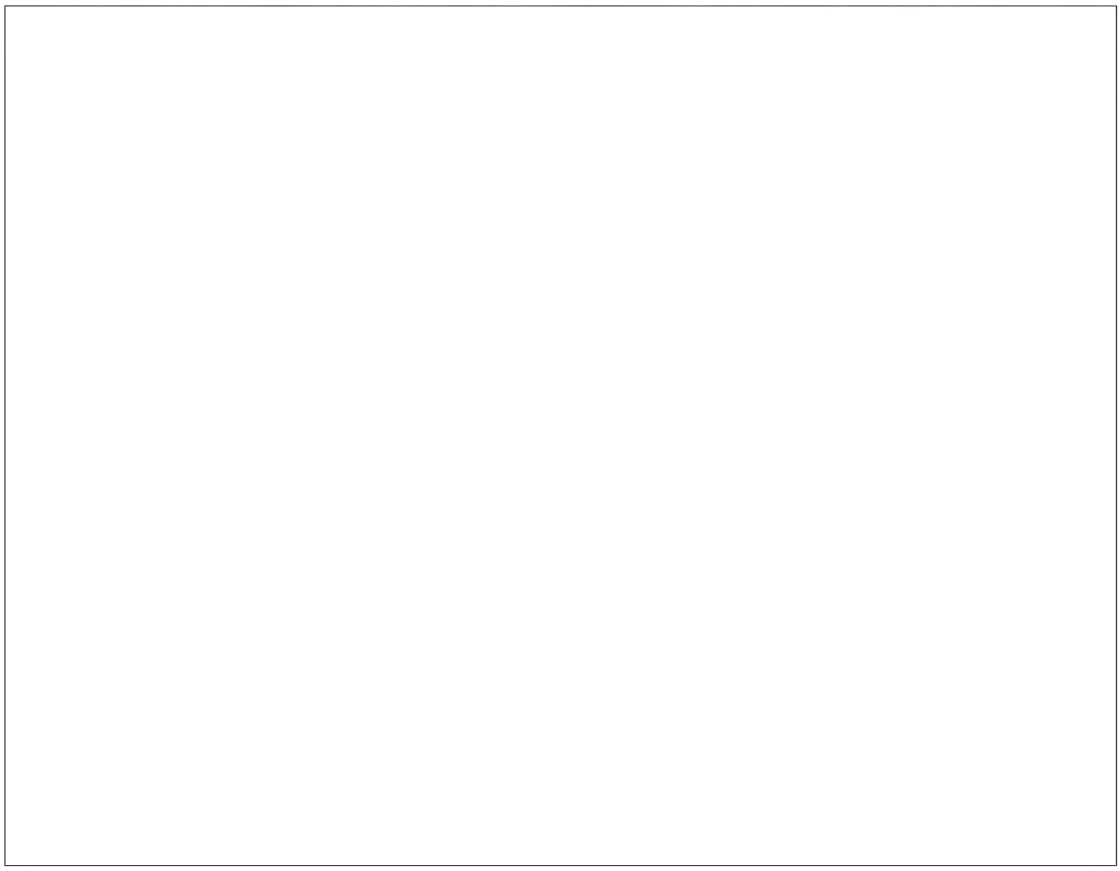
All French SLBM tests are conducted using the facilities of the Landes Missile Test Center near Bordeaux. This is the only missile test launch facility in France. Submarine launches also use the tracking capabilities provided by the Landes Center.



The French test SLBMs during the early at-sea phase using an especially configured submarine, the Gymnote. This four-tube conventional-powered submarine frees the SSBNs from R & D duties, which ultimately results in greater time on station for the deterent force.

French SLBM Systems

The French plan to keep the M-20 in service up into the 1990's. Four of the five SSBNs now carrying the M-20 will be configured for the M-4 during the last half of this decade. The oldest SSBN will not be converted to the M-4 system because of her age.



Redoutable-Class SSBN

France has five SSBNs operational, all Redoutable class. The Redoutable-class submarines are similar in appearance and design to the US Ethan Allen SSBNs. During the early 1960s, when France was designing and building their lead SSBN, extensive US technical assistance was provided. These submarines are configured with the M-20 SLBM.

The construction of Redoutable-class SSBNs has stretched over two decades. During this period evolutionary improvements to machinery and subsystems have been made to the newer ships. Some improvements, especially navigation and fire-control systems upgrades, have been retrofit to the older SSBNs as well.

A sixth SSBN, also a Redoutable class, is approaching sea trials and is scheduled for operation in early 1985. This SSBN will be configured for the M-4. As the M-4 enters service, the four newest M-20 SSBNs will be converted to the M-4. Age dictates that the first Redoutable will finish her service life carrying M-20 missiles.

The French SSBNs radiate more machinery and equipment noise than contemporary nuclear submarines of the US Navy or even the Soviet Navy placing them at a disadvantage against a quieter adversary. Now aware of this vulnerability, the French are attempting to correct the noise problem on their newest Redoutable-class SSBN (M-4 configuration).

The M-4 system will be retrofit to the four newest SSBNs. The first Redoutable submarine is not scheduled to be refit to the M-4 system because of her age. (See table 28.)